



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

RBW6305G16031-3G

Job Sheet 172413



Part No: RBW6305G16031-3G

Job Qty: 3 ea

Part Name: Drive Quill Seal Housing Remover



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/16/18

Job Tracking No:

Due Date: 4/16/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBW6305G16031-3G REV 2 IPP REV A 18.02.15 NEW ISSUE FK VERIFY DP

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	3 pcs		4/16/18	0.00	0.00	Purchasing		AT 18/04/26
110	Packaging	3 pcs		4/16/18	0.00	0.00	Packaging2		AT 18/04/26
120	QC	3 pcs		4/16/18	0.00	0.00	QC6		38
130	Packaging	3 pcs		4/16/18	0.00	0.00	Packaging3		APR 27 2018
140	QC21-FG	3 Ea		4/16/18	0.00	0.00	QC21	APR 27 2018	GA 115

Part Op 100 - Issue PO to ARROW TECH MACHINE WORKS P/O: D37088 MANUFACTURE RBW6305G16031-3G AS PER
Descriptions: DWG -Certificate of conformity is required

FEB 22 2018 ALB

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
RBW6305G16031-3GP	Drive Quill Seal Housing Remover	3 (1 ea)	100-Purchasing	5065877

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	RBW6305G16031-3GP	3	0	0

Part Specifications

Specifications could not be found.

Plex 2/16/18 9:50 AM Dart.lajeunesse.marie

PQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS					
Part No. _____		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
NCR No. _____		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
	Large Fab ☐	Composite ☐	Supplier ☐				

Date : _____ Stan # : _____

MRB (QSI042) Approval

Descriptic

 Job No: 172413
 Mtg Date: 04/26/18

Packaging

Change No: _____

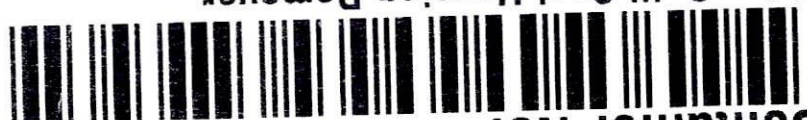
Operation: _____

Revision: _____

Serial No/Batch: S065878

PART NO: RBW6305G16031-3G

Drive Quill Seal Housing Remover



Container No: S065878

/Surge
am

Root Cause	
Environment ☐	No Re-verf ☐
Design ☐	Operator ☐
Doc/Data ☐	Offset/Setu ☐
Equip/Tooling ☐	Supplier ☐
Handling/Pre ☐	Training ☐
Material ☐	Use for Testing ☐
Internal Transport ☐	Poor Information ☐
Tribal Knowledge ☐	Rushing ☐
LOA ☐	Product Improvement ☐
Substation ☐	Process Improvement ☐
Past Expiry Date ☐	Manufacturing Process ☐
Misidentified ☐	Past Due ☐

 DART Aerospace Ltd.
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 Hawkesbury, ON K6A 1K7
 CANADA
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 Email: sales@dartaero.com
 www.dartaerospace.com

 Crimp/Kink/Ripple/Wave ☐
 Cuffs ☐
 Crushing ☐
 Heat Treat ☐
 Wave/Twist in Tube ☐
 Marks/Chatter ☐

 Inspection Incomplete/Unqualified ☐
 Contamination ☐
 Countersink ☐
 Cut Too Short ☐
 Instructions Incomplete/Unclear ☐
 Drill Holes ☐

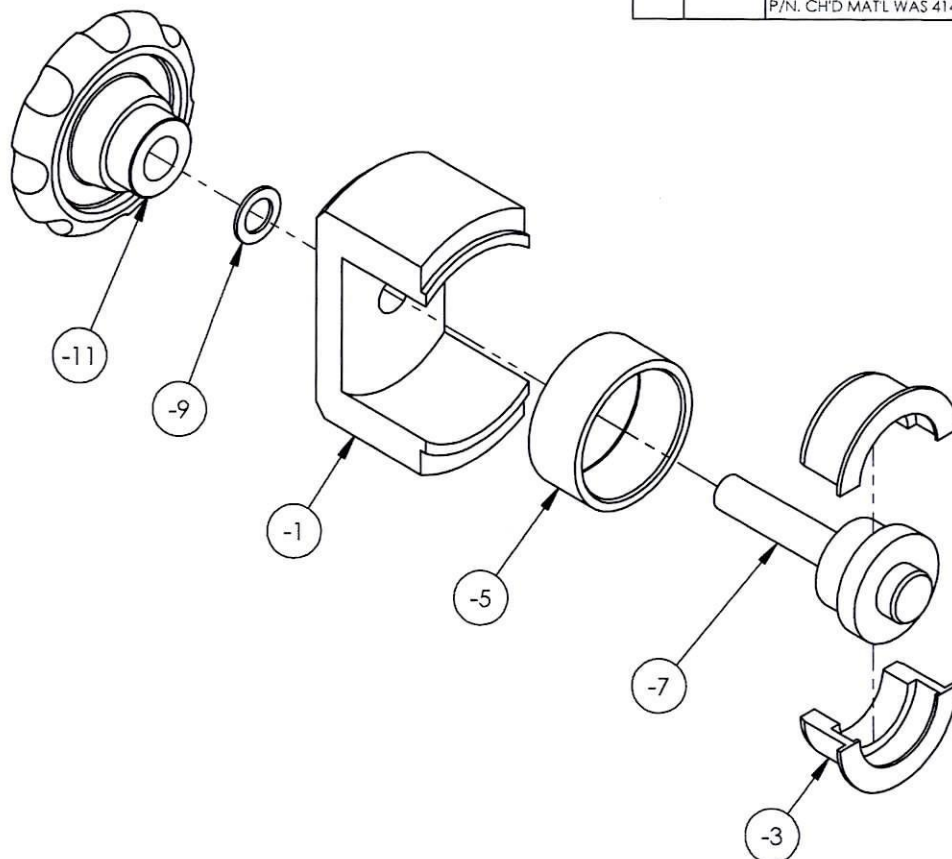
 Wrong Stock Pulled ☐
 Out of Sequence ☐
 Off-set ☐
 Mislabeled ☐
 Fit/Function ☐
 Misaligned/off center ☐

 Positioned Wrong ☐
 Outside Dimensions ☐
 Over/Under tolerance ☐
 Part Incorrect ☐
 Part Lost/Missing ☐
 Part Moved ☐
 Drawing ☐
 Finish ☐
 Misread ☐
 Turning Sequence ☐

OTHER : _____

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		CH'D -1 ENGRAVE NOTES. ADDED -3 CUT LINE GAP TOLERANCE FROM .040. CH'D -5 GEO. TOL. FROM PERPENDICULAR.	5/6/2011	RJC	RW
2	17-0094	UPDATED TO NEW DRAFTING STANDARD. -1 CH'D DIM'S WAS 2.360 IS 2.36, WAS 1.930 IS 1.93, WAS 2.520 IS 2.52. CH'D ENGRAVE NOTE WAS ENGRAVE T/N 'RBW6305G16031-3G' S/N. 'MADE IN USA' IS ENGRAVE T/N. S/N. 'MADE IN USA' WAS ENGRAVE T/N 'RBW6305G16031-3G-1' IS ENGRAVE P/N. -3 CH'D DIM'S WAS 1.316 (X2) IS (2X 1.316). CH'D DIM'S WAS 1.141 IS 1.14, WAS BASIC .079 IS .079. WAS BASIC Ø1.784 IS Ø1.784, WAS BASIC .058 IS .058. CH'D POSITION OF GEOMETRIC TOLERANCE BLOCK FOR CLARITY $\square \square \square$. CH'D ENGRAVE NOTE WAS ENGRAVE TOOL NO. 'RBW6305G16031-3' IS ENGRAVE P/N. -5 CH'S DIM WAS 1.061 IS 1.06. CH'D ENGRAVE NOTE WAS ENGRAVE TOOL NO. 'RBW6305G16031-3G-5' IS ENGRAVE P/N. -7 CH'D DIM WAS 4.250 IS 4.25. DELETED DIM .178. ADDED DIM 2.61. CH'D FINISH WAS CAD PLATE YELLOW QQ-P-416F, TYPE II, CLASS II IS ZINC PLATE ASTM B633 TYPE I SC2. CH'D ENGRAVE NOTE WAS ENGRAVE TOOL NO. 'RBW6305G16031-3G-7' IS ENGRAVE P/N. CH'D MATL WAS 4140 Q&T IS 4140/4142. ADDED HEAT TREAT RC 28-34.	4/21/2017	RJC	JAG



NOTE:

1. ALSO SOLD WITH KIT RBW6305G01531-3G, BOX TWO RBW6305G19731-3G.
2. REF. AGUSTA T/N 3G6305G16031.

DART AEROSPACE																											
TITLE TOOL, DRIVE QUILL SEAL HOUSING REMOVER																											
DWG NO. RBW6305G16031-3G	REV 2																										
<table border="1"> <tr> <td>MAT'L</td> <td>UNLESS OTHERWISE SPECIFIED</td> </tr> <tr> <td>HEAT TREAT</td> <td>DIMENSIONS ARE IN INCHES</td> </tr> <tr> <td>FINISH</td> <td>.XXX ± .005 FRACTIONS ± 1/8</td> </tr> <tr> <td></td> <td>.XX ± .01 ANGLES ± 5°</td> </tr> <tr> <td></td> <td>.X ± .1 SURFACES = 125/</td> </tr> <tr> <td>SPEC</td> <td>1. BREAK ALL SHARP EDGES .015 x 45° OR .015R</td> </tr> <tr> <td>DRAWN BY: CLOUGH</td> <td>2. DIMENSIONAL LIMITS APPLY AFTER PLATING</td> </tr> <tr> <td>CHECKED: DD 05/01/2017</td> <td>3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009</td> </tr> <tr> <td>OPPS APPR: AA 05/05/2017</td> <td>USED ON MODEL</td> </tr> <tr> <td>QA APPR: JL 05/10/2017</td> <td>AW139</td> </tr> <tr> <td>APPROVED: JAG 05/16/2017</td> <td></td> </tr> <tr> <td>SCALE 1:3</td> <td>DATE 2/4/2011</td> </tr> <tr> <td colspan="2">SHEET 1 OF 5</td> </tr> </table>		MAT'L	UNLESS OTHERWISE SPECIFIED	HEAT TREAT	DIMENSIONS ARE IN INCHES	FINISH	.XXX ± .005 FRACTIONS ± 1/8		.XX ± .01 ANGLES ± 5°		.X ± .1 SURFACES = 125/	SPEC	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	DRAWN BY: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING	CHECKED: DD 05/01/2017	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	OPPS APPR: AA 05/05/2017	USED ON MODEL	QA APPR: JL 05/10/2017	AW139	APPROVED: JAG 05/16/2017		SCALE 1:3	DATE 2/4/2011	SHEET 1 OF 5	
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SHEET 1 OF 5																											

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			-1	1	FRAME	6061		2
			-3	2	TWO HALF KEEPER	6061		3
			-5	1	LOCK RING	6061		4
			-7	1	PULLER	4140/4142		5
		B/O	-9	1	WASHER	ALUMINUM	Ø5/8 I.D. X Ø1 O.D. X .063 (MCMASTER-CARR #92661A745)	1
		B/O	-11	1	6 LOBE KNOB	PLASTIC	5/8-11 X Ø3.90 O.D. X 1.73 (ESSENTA COMPONENTS #KHN-115)	1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Large Fab ☐	Composite ☐	Supplier ☐																			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval																	
Description Work Order Deviation		Disposition		Completed By																	
				Lead hand / Supervisor Approval Verification																	
				QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : _____																					



Dart Aerospace Ltd.
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Tel (613) 632-5200

PURCHASE ORDER PO039084

Items											
Line Item	Part	Supplier Part No	Item No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
				3G Rev. 1							
Line Item Note job# 172416											
15	RBW6305G14631-3GP			Tail Rotor Drive Quill Seal Housing Remover As Per Dwg RBW6305G14631-3G Rev. 1A	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$1,205.32/Ea	\$3,615.96
							3x			AT 18/6/25	
Line Item Note job# 172415											
16	RBW6305G14831-3GP			Tail Rotor Drive Quill Lip Seal Remover As Per Dwg RBW6305G14831-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$922.80/Ea	\$2,768.40
Line Item Note job# 172414											
17	RBW6305G16031-3GP			Drive Quill Seal Housing Remover As Per Dwg RBW6305G16031-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$981.65/Ea	\$2,944.95
							3x			AT 18/6/26	
Line Item Note job# 172413											
18	RBW6305G18331-3GP			Ecs Drill Quill Lip Seal Remover As Per Dwg RBW6305G18331-3G Rev. B	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$534.40/Ea	\$1,603.20
							3x			AT 18/6/25	
Line Item Note job# 172412											
19	RBW6305G18631-3GP			Ecs Drive Quill Housing Remover As Per Dwg RBW6305G18631-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$1,043.33/Ea	\$3,129.99
							3x			AT 18/6/26	
Line Item Note job# 172411											
20	RBW6305G19231-3GP			Puller Rotor Brake Adapter Flange Remover As Per Dwg RBW6305G19231-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$740.19/Ea	\$2,220.57
							3x			AT 18/6/26	
Line Item Note job# 172410											
21	RBW6305G19151-3GP			Guide Fan Drive Quill Seal Housing Installer As Per Dwg RBW6305G19151-3G Rev. B	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$132.32/Ea	\$396.96
							3x			AT 18/6/16	
Line Item Note job# 172402											
22	RBW6305G16231-3G-1P			Handle As Per Dwg RBW6305G16231-3G-1 Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$368.38/Ea	\$1,105.14
							3x			AT 18/6/16	



ARROW TECH MACHINE WORKS

Certificate of Conformance

Your Purchase Order No:039084

Dated: 04/24/2018

Our Order / Job No:15AWT

Order Qty: 3

Part Name: Tool, Drive Quill Seal Housing Remover

Part Number:RBW6305G16031-3G

Lot Size:N/A

Ship Date: 04/24/2018

We certify that these parts shipped to you are of domestic or international manufacture and conform to all requirements of the Purchase Order. These parts have been manufactured and inspected in accordance with all required specifications, instructions and drawings. Any applicable specifications are listed below:

Drawing Number: RBW6305G16031-3G

Rev:2

Material Size and Type: -1/6061 ALUM.; -3/9061 ALUM.; -5/6061 ALUM.; -7/4140

Material Specifications: ALUM.- ASTM B221; STEEL- ASTM A108, ASTM A29

Heat Treatment: N/A

Plating/Finish: CLEAR ANODIZE: MIL-A-8625F TYPE II, CLASS I; ZINC PLATE: ASTM B633 TYPE I SC 2

Mercury Contamination: The material used to process this order has not come in contact with mercury or mercury bearing instruments.

Date: 4/24/18

Signed: *Herbert M. Latt*

DAS
38
-89

PHGE Machine Works LLC dba Arrow Tech Machine Works
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www.atechmachineworks.com

APD 77 2018